



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,251	12/15/2003	Nobuo Sasaki	1071.1051	8952
21171	7590	02/28/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PERRY, ANTHONY T	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/734,251	Applicant(s) SASAKI, NOBUO	
	Examiner Anthony T. Perry	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-12, 14-16 and 18-24 is/are allowed.
- 6) ☒ Claim(s) 1 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita (WO98/24271).

Regarding claim 1, the Miyashita reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (805) on a substrate (804) and filling said grooves with a solution that contains an organic EL element material is dissolved (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the luminescent layers (806,807,808). It is noted that Miyashita does not show a top view of the embodiment shown in Fig. 4 so it is not explicitly taught that the grooves extend over two or more pixel sites, however, such a structure is well known in the art, and is considered to be implied by the reference since there is no wall shown intersecting walls (805) of the grooves that extend into Figure 4. Such a structure (i.e. grooves extending over two or more pixel sites) is used so that the entire groove can be deposited with a luminescent layer having a desired color in one deposition step. Accordingly, it would have been obvious to one of ordinary skill in the art (if they were not sure that Miyashita implicitly taught the groove extending over two or more pixels sites) at the time the invention was made to have provided the grooves of Miyashita extending over two or more pixel sites, such that the manufacturing step of depositing

the luminescent layers within the grooves can be simplified in that the entire columns of adjacent pixel sites can be supplied with the luminescent layer of a desired color in one deposition step.

Miyashita exemplifies an ink-jet method used to deposit luminescent layers, but also teaches that capillary phenomenon may be used to deposit the layers (see for example, col. 6, lines 19-24 of Miyashita et al. (6,863,961) which is from the same patent family as (WO98/24271)). The capillary method does not require expensive equipment such as an ink-jet printer. Accordingly, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use capillary phenomenon instead of the ink-jet method in order to eliminate the need for an ink-jet printer therefor reducing the overall cost of manufacturing. Regarding claim 17, the Miyashita reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (305) on a substrate (304) and filling said grooves with a solution in which a material that becomes a buffer layer (308) between an organic layer (306,307) and an electrode (309) is dissolved (see the abstract and Fig. 3). The solution is dried in order to remove the solvent, leaving the buffer layer (308). Miyashita teaches that a capillary method is a suitable for forming the buffer layer (308).

It is noted that Miyashita does not show a top view of the embodiment shown in Fig. 3 so it is not explicitly taught that the grooves extend over two or more pixel sites, however, such a structure is well known in the art, and is considered to be implied by the reference since there is no wall shown intersecting walls (805) of the grooves that extend into Figure 4. Such a structure (i.e. grooves extending over two or more pixel sites) is used so that the entire groove can be deposited with a luminescent layer having a desired color in one deposition step. Accordingly, it would have been obvious to one of ordinary skill in the art (if they were not sure that Miyashita

Art Unit: 2879

implicitly taught the groove extending over two or more pixels sites) at the time the invention was made to have provided the grooves of Miyashita extending over two or more pixel sites, such that the manufacturing step of depositing the luminescent layers within the grooves can be simplified in that the entire columns of adjacent pixel sites can be supplied with the luminescent layer of a desired color in one deposition step.

Allowable Subject Matter

Claims 2-12, 14-16, and 18-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 4, and 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of forming stoppers that prevent the solutions from filling the entire groove and then removing the stoppers.

Regarding claim 3, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves extending over two or more pixel sites with their edge portions being shifted from one another and immersing the shifted edge portions in two separate solutions containing two different EL materials.

Regarding claims 5-7, 9-11, and 19-21, claims 5-7, 9-11, and 19-21 are allowable for the reasons given in claims 2, 4, and 8 because of their dependency status from claims 2, 4, and 8.

Regarding claims 12 and 22, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the pixels being made up of plural sets of grooves wherein each set of grooves is

Art Unit: 2879

formed of different colors. The prior art teaches pixels made up of plural grooves wherein each groove is filled with a different color (one containing red, one containing green, and one containing blue), but does not teach plural sets of grooves per pixel (more than one groove having the same color as another formed in the same pixel region). It is noted that the term "pixel region" refers to a single pixel and not a group of pixels.

Regarding claims 14-16 and 23-24, claims 23-24 are allowable for the reasons given in claim 22 because of their dependency status from claims 12 and 22.

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves being filled by capillary phenomenon with a solution in which a material that becomes an electrode is dissolved.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2879

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

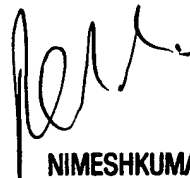
Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (571) 272-2459. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Perry
Patent Examiner
Art Unit 2879
February 21, 2006



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800